THE MAGAZINE FOR SPECTRUM AND SAM COUPÉ USERS

SIGE SIGNAL SALVE SALVE

Newsfield

Publishers of CRASH magazine go bust

Micronet: the end of an era

Reviews:

Key Press •

D.M.S. •

Out Write •

UniDOS •









Editor: Daniel Garner

> Design: N.Quinn

Contributors: M.Perry, Daniel Garner, Colin MacDonald, Brent Stevens, Paul Wallace.

Printed and Published by:
Garner Designs
Publishing,
57 Lovers Walk,
Dunstable, Beds,
LU5 4BG.
Tel: 0582 472067
Fax: 0582 696114

) 91 Garner Designs

No material may be eproduced in part or whole without the written permission of the Publisher.

While every care is taken with the preparation of this magazine, the Publisher cannot be held responsible for any errors contained within articles or advertisements.

Subscription details are available from the Publisher.

SINGINIT & SAIVI COMPUTING

THE MAGAZINE FOR SPECTRUM AND SAM COUPÉ USERS

3 Editorial

4 News

Micronet and Newsfield close. SAM CP/M approches.

10 Chart Makers

Chris Clayton explores business graphics.

17 Video Titling

Our continuing video titling series...er...contines.

25 The Microdrive Story

...so far. Possibly the cheapest upgrade route for Spectrum users.

29 Programming in "C"

32 Subscriptions

How to subscribe to Sinclair & SAM Computing.

33 Mail Order

Bargains galore.

35 Next Issue/Classifieds

RIDAVIDAVAS

7 K=Y=2==55

We review SAMCO's word processor aimed at users of all ages. As you'll see, its a new concept. But does it work?

10 CHART MAKERS

Using the Spectrum as a business tool has virtually ceaseed nowadays, but there is still an interesting array of software available, past and present, which allows users to create bar graphs, pie charts, etc. Chris Clayton takes a look at what's on offer.

14 DMS

Ever found yourself sifting through piles of discs to find the one you want? If you have, then Kobrahsoft's DMS may just keep your disc collection organised.

20 OUTWRITE

Another word processor is put through its paces in this issue. This time, the program is Out Write by Chezron Software (the publishers of Outlet).

 More reviews of latest serious software releases than any other Spectrum and SAM magazine.

DTP Guide

- Design and Layout
- Clip Art: What is it?
- TasPrint review
- Printers



Editoru

Its been a busy last month for us. First of all there was the news of Micronet, Newsfield and New Computer Express all breaking less than a week before issue 4 was due to go to press; and then we had a panic trying to fill a 6page gap which was the result of two of our contributors forgetting to send us their articles before they went on holiday - whoever said "lightning doesn't strike in the same place twice" should be shot. This resulted in a slightly smaller issue than we were expecting due to a bit of last minute (and I mean last minute) shuffling of articles with a couple of things have had to be carried over to issue 5, and the magazine's arrival through your letter box has been delayed by a few days.

We've decided that the next three or four issues will continue to be sent out on a bi-monthly basis. We shall however, switch to a monthly schedule after this. Issue 5 will herald the switch over to offset litho printing for the magazine too. Due to the aforementioned hassles with this issue we didn't get time to start our offset printing with this issue.

However, come wind, rain, lightning, flash floods, tidal waves and other assorted natural disasters, issue 5 will reach you in time for Christmas. And what an issue we have planned for you!

We have sign hanging up in our office which states our 'mission objectives' for our magazine publishing. They are: 1. We shall publish magazines using the best technology available to us, to a standard of professionalism that will make each issue better than the last. 2. Our magazines shall reflect the interests of its readers, however diverse these interests are. 3. We shall create an atmosphere that will make our magazines sought after by the public.

We also need you to send in your articles for publication. They can be about any subject relating to the magazine and do not need to be that lengthy. Magazines like S&SC thrive on their readers contributing to its content. Although we already have a core of regular contributors to the magazine, we are always on the look out for more - those who are prepared to send us something regularly and those who can send us an article every now and again. What's more, the author of every article we print will be paid for his time and effort too.

I've had a moderate response to issue 3's editorial which asked those arty-types amongst you to send your graphical masterpieces to us for inclusion in a new column. We've not had enough

contributions to warrant a new regular column yet, but if more people start sending their work in then we'll start the column without delay.

Finally, I was very sad to hear about Newsfield slipping into receivership, and the closure of New Computer Express. Not only, was Newsfield one of the most respected publishers in industry, but also Crash magazine the best Spectrum magazine for a very long time. The point at which Crash decided to concentrate 100% on games was the only time could fault their editorial decisions. Newsfield was started as very much a 'back room' enterprise with Crash magazine and through the years they have grown with the industry. But recent marketing decisions and the recession hit them harder than they could withstand. Although a sad loss, some of their magazines will survive - although Crash, I regretfully suspect, may not have a future.

As for New Computer Express, I think every user who only owns an 8-bit computer was thinking very hard about continuing to get NCE due to its cover-mounted disc policy. However, in its pre-£1.50 days it did provided a good source of information for Spectrum users. Its coverage of the SAM Coupe was annoying though. Despite Robin Alway's best attempts to get the SAM column going, the publishers decided to axe the SAM column, leaving Robin to give SAM token mentions in the Spectrum column. Mentions of the Spectrum or SAM elsewhere in the magazine were rare, and certainly did not justify the £1.50 cover price each weekly.

Despite these two victims of the recession, Sinclair & SAM Computing will continue for as long as there is are Spectrums and SAMs being used by somebody somewhere.

FIRST WITH THE NEWS FOR THE SPECTRUM AND SAM COUPE

axes Micronet

In a shock move, British Telecom have announced that Micronet, the most popular on-line service amongst home computer users, will close on 31st October 1991. The reason behind the closure is due to Micronet being "unprofitable". Prestel, the parent system to Micronet, will remain but its lack of areas for the home computer users will undoubtedly leave a sour taste in Micronet's 12,000 members. Members have been given the option to cancel their Micronet account and receive a refund for their outstanding subscription.

Hertfordshire based BT Tymenet, owners of Micronet, have arranged with the massive American service CompuServe a free membership package and including a \$35 usage credit. Like Prestel, CompuServe can be accessed anywhere in the UK locally. However, apart from time charges being very high and the need of credit card being a prerequisite of membership, there is little or no interest to Spectrum users. CompuServe has over 800,000 members worldwide, 15,000 of which are based in the UK.

Micronet started life eight years ago. Ever since its start, the Spectrum has played an important role on the Net. For many years Micronet was used by a majority consisting of Spectrum users. During the eight year period Spectrum support has continued to be strong even to the end where Brian Gaff, editor of the Spectrum area, has the sad task of tieing up all the loose ends before Micronet closes.

There is widespread condemnation of BT's decision, and 'Save the Net' campaigns are doomed to failure when you consider BT's past record when you take customer service. The news has sent the Net into a state of confusion, with services run by external companies, such as the Shades and Trash multi-user games soon to be without a home. Third Millenium Systems who run both Shades and Trash are said to

be furious about the situation and are considering legal action against British Telecom for breach of contract.

However, there may be hope on the horizon as several 'rescue packages' which aim to set up a 'New Net'. Of the two main projects, Viewdata local access services are promised, but the scale of both projects may mean that they burn themselves out before they get started.

Dishearteningly, both projects have not showed an interest in saving Micronet's Spectrum area from extinction. However, there is a separate rescue package under way for the Spectrum area which should hopefully be in operation to Spectrum users as well as other computer users in November. More details will be printed when we're given the all clear to release them.

Now for some news which has just reached us. Future Publishing, currently the largest computer magazine publishers in Europe, have shut down their weekly magazine, New Computer Express. Although at the time of press Future Publishing have not confirmed the leaked news, we understand that

the staff were told that the issue due out Thursday 17th October would be the

magazine's last.

NCE was apparently losing money for the company, and the move of adding a cover-mounted disc and raising the price to £1.50 to try to save the ailing the magazine seems to have failed with

the majority of readers with 8-bit computers abandoning the magazine in their droves.

Future Publishing current hold an impressive portfolio of titles, but if they are re-evaluating their financial position it could mean other titles may be on the way out.

NEWSFIELD CRASHES

Veteran publishers Newsfield have gone into voluntary liquidation with the company making its entire staff redundant and forcing the closure of all its magazines including Crash, the popularity of which ironically enabled Newsfield to prosper in the company's mid-eighties hey-day when monthly sales of Crash topped 100,000.

The news was announced to a shocked staff on Tuesday 16th September. All 40 staff, including directors, are now redundant. When we called Newsfield's offices only a switchboard operator was left to answer the telephone prior to receivers Kidson Impey and Partners taking administration of the

company.

Hopes are high to clear most of the company's debts through the sale of the magazines to other suppliers. However, the company's first commercial success, Crash, looks likely not to find a home. With the Spectrum market slowing down now and Amstrad's impending decision to phase out the Spectrum Plus 2, the hopes of another publisher buying Crash are slim.

Newsfield had been in existence since 1983, with the launch of Crash coming in 1984. Crash was the most dominant Spectrum magazine for a couple of years, boasting monthly sales in excess of 100,000. As the Shropshrie based Newsfield grew, more titles were launched, mainly in the computing sector. However, launches into other markets turned out to be very costly errors. Both LM and Movie were launched into the leisure market and both failed to perform as well as was expected.

It must be noted that the recession has bit into magazine and newspaper publishers hard. Many small and medium (and some large) publishers sought to increase revenue through this financially hard time by launching a multitude of titles to try to capture slices of as many different target markets as possible.

While this ploy seemed to be almost universally working during the recession's initial months, the recession has bit so hard over the last three months that many of these publishers are finding that it has been a costly mistake with high production and wage bills.

Newsfield's mistake was so costly that they are now unable to emerge from the recession at all. While we may not have liked Crash in its all games format, it will be missed.

New Music Writer utilities

Garry Rowland has released two new utilities for his Music Writer package. Compiler.XTN is a public domain program which allows music created with Music Writer to be played outside of the Music Writer environment. The package also gives instructions of how to incorporate music into your own programs.

MIDI.XTN builds long-awaited MIDI compatibility into Music Writer. With it, you can play Music Writer files through any MIDI instrument via the Spectrum MIDI port or the dedicated MIDI interfaces - the Micro XRi, Cheetah, RAM Music Machine and EMR.

Both programs are available now from Garry Rowland (PO Box 49, Dagenham, RM9 5NY), or via Sinclair & SAM Computing's Mail Order service.

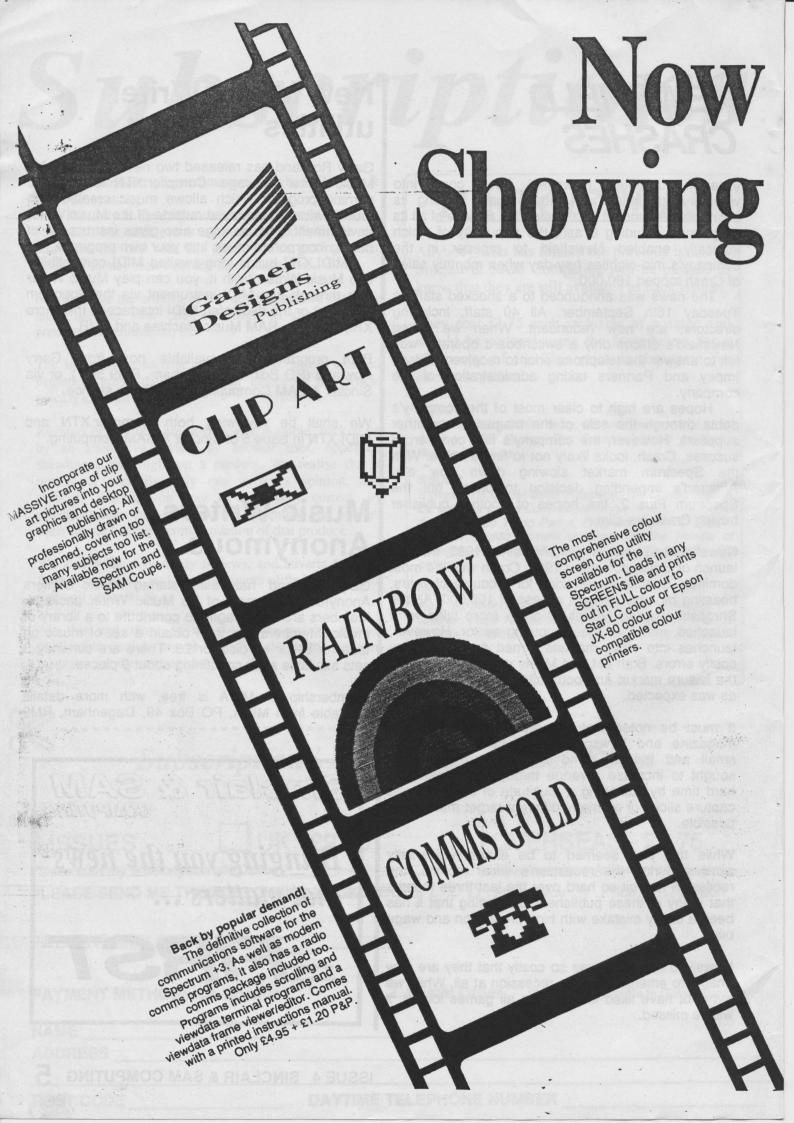
We shall be reviewing both Compiler.XTN and MIDI.XTN in issue 5 of Sinclair & SAM Computing.

Music Writers Anonymous

Gary Rowland has also started Music Writers Anonymous for users of his Music Writer package. Members are encouraged to contribute to a library of music. Members can then obtain a set of music on tape for £1 or +3 disc for £3. There are currently 3 sets available each containing about 8 pieces.

Membership of MWA is free, with more details available from MWA, PO Box 49, Dagenham, RM9 5NY.







THE KEY PRESS

As a word processor Key Press is somewhat of an oddity - it different offers five processing programs designed so that anyone, even infants, use them. As educational tool however. Key Press is very good indeed.

SAM Computers have not had an easy time getting the SAM accepted the by 'educationalists'. However, programs like Key Press may well go some way to regress the odds currently stacked against the SAM being a success in schools. Key Press is equally suited to home use too, with parents with children at a variety of ages benefitting most.

Key Press provides 5 levels of word processing. The lowest level is Key Press 1 which is aimed at introducing infants to a word processor. Characters are displayed on the screen in a pleasant large type which is 'written' onto the screen. With some people feeling that word processors take away a child's fundamental writing skills, the way in which Key Press writes the characters to the screen

can only help to reinforce hand writing skills.

Key Press 5 is the most advanced program in the suite, offering a wide range of options that you would expect to find in any word processor. It uses a normal typeface as opposed to the large letters in Key Press 1. However, the worksheet option allows a file written using Key Press 5 to be printed out in the large letters.

David Philpot lays down two criteria of the five different levels of experience that Key Press has:

1. they should support the child's increasing sophistication in writing and recording,

2. they should stimulate thought and criticism of the currently available options, i.e. "Why doesn't it?", "I wish it could?", etc.

Key Presses 2, 3 and 4 offer varying degrees of program sophistication to suit the user. Each version offers the user the next stage of advancement, hopefully answering "Why doesn't it..." and "I wish it could..." questions mentioned above.

Key Press has been nicely designed with a pleasantly easy to use front end and the ability to select screen colours is a welcome feature. Screen layout has been optimised so that the various options and status flags do intrude upon the main word processing window. One thing that I didn't like was the keyboard response, which I found to be sluggish. While youngsters will not be typing at a speed associated with a journo, it is fair to assume that if someone is up to the stage of using Key Press 5 (or indeed the teacher or parent is using it) then their typing speed would be fair. Finding characters that you typed have 'vanished' is annoying at the best of times.

Apart from this, Key Press is very user friendly. Key Press offers instructions on the use of program from the main menu. A README file on the disc can be loaded into Key Press for extra information and some suggested uses for Key Press

as a teaching aid. On-screen instructions are present in all 5 Key Press programs, allowing the child to instantly see the options available to him or her.

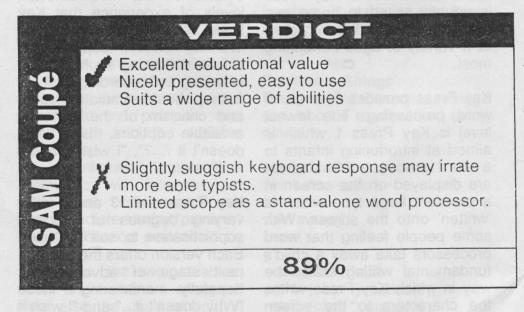
As a word processor in itself, many people will find the options available in Key Press 5 meet their needs adequately. However, Key Press's strength is the way it can help children to use and understand how word processing works, albeit on a much simplified level at first. And as such, Key Press is recommended. SAM highly must Computers commended in sticking by its principles of establishingly an educational software base for SAM. With Key Press, and its author David Philpot, hopefully the educational side of SAM will continue to grow.

David Philpot has done a good job in giving the program a wide range of features, from the way the letters are literally written to the screen in Key Press 1 to standard word processor features such as tabs, typestyles, and such like in Key Press 5.

Key Press is published by Revelation/SAM Computers, and costs £15.00.

Revelation, Lakeside, Phoenix Way, Swansea Enterprise park, Swansea, SA7 9EH. Telephone: 0792 700300





128/+2/+3 SPECTRUM

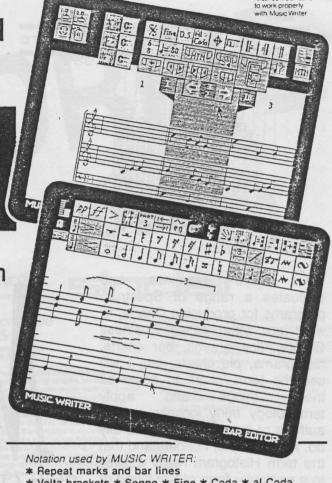
Three part score writing system

MUSIC WRITER is a new music program that can help the beginner to learn how to read music. A feature of MUSIC WRITER is WYSIWYH - What You See Is What You Hear. This allows you to find out what effect various music symbols have when the score is played. If you're not sure what a mordent does, use the pointer to pick it up and put it on a note - MUSIC WRITER will play it for you. If you are unsure of the order to play bars with D.S. alcoda and so on... MUSIC WRITER will show the order they are played in. All music notation used by MUSIC WRITER is demonstrable - that's what makes MUSIC WRITER a powerful learning aid for those learning to read and play

The serious home musician will also find MUSIC WRITER bringing new life to their Spectrum. The WIMP system is very easy to use and there are powerful editing facilities that allow blocks of bars to be easily moved, copied, deleted or saved. The filing system allows files to be inserted into current work as well as the more conventional load and save facilities.

Apart from the 46K RAM disc, only tape filing is available on the 128 and +2. +3 DOS is available on the +3 and also on the +2A (if drive added). The RAM disc could serve as the main filing system with a 'snapshot' interface used to save sessions to other media.

MUSIC WRITER has a voice bank of ten voices which can be edited and saved for loading on another session. Each voice is made up of three effects. The volume effect shapes the 'attack' and 'decay' of the sound. The pitch effect alters pitch relative to the pitch set by the stave and any accidentals. Changes can be as little as a quarter tone to as much as one octave. The noise effect adds noise to create drum and wind sounds. Unlike many other music programs, the volume on any voice can be changed without having to alter the voice's volume effect. This enables accents, crescendo and diminuendo marks to be played - creating much more expressive music than is usually possible on a Spectrum.



Volta brackets * Segno * Fine * Coda * al Coda

D.S. * D.S. al Coda * D.S. al Fine

Notes and rests from semibreve to demisemiquaver

Triplet (rests allowed)

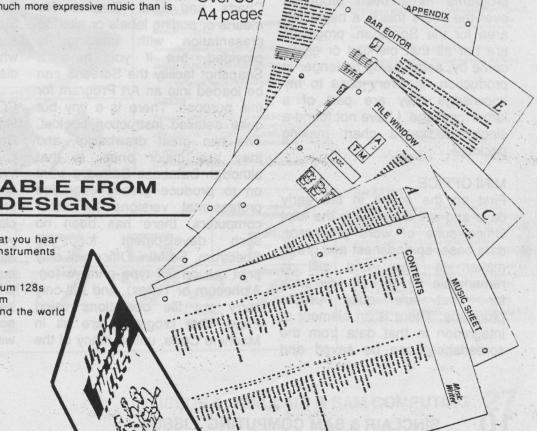
Dotted notes * Staccato notes

Accidentals * Tie and slur * Glissando

Trill * Turn * Mordent

Over 30

* Accent * Crescendo and diminuendo



ALSO AVAILABLE FROM GARNER DESIGNS

* WYSIWYH - What you see is what you hear

Three part score for upto three instruments

* Includes ring binder and manual

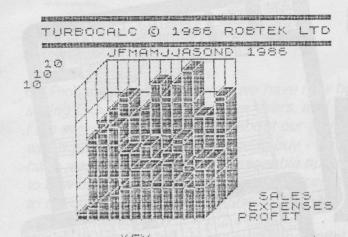
* Manual explains music notation

One program loads on all Spectrum 128s

Auto disc transfer on +3 Spectrum Includes 12 folk songs from around the world



G. Rowland P.O. Box 49 Dagenham RM9 5NY



CHART

article examines This and evaluates a range of Spectrum programs for producing Charts, or what are often called Business Graphs: line graphs, bar charts, histograms, pie charts, etc. I will use the term 'chart' to cover all things and apply these terminology fairly loosely, as the authors of the programs generally do. For example, I understand that the term Histogram really applies to a particular form of Bar Chart or Graph in which the areas of the bars are significant rather than their height/length. However, in many of the program the term appears to be used for Bar Charts in general.

Although a number of such programs have been produced over the years this is a neglected area for the Spectrum. programs are not all that plentiful or easily come by, some being no longer in production. In every case to my knowledge they are part of a larger package, I have not found a single dedicated chart making package.

MINI OFFICE

First on the scene in the early days and still available is the Mini Office suite of word processor, data base, spreadsheet and graph maker. It was, and still is remarkable for its very low price for what are quite usable programs. There is an element of integration in that data from the spreadsheet can be saved and

MAKING

Chris Clayton takes a look at the various software packages available for Spectrum users to aid them in making charts and graphs. An important question is also asked: why isn't anybody making any new chart making software?

loaded into the Graph Maker, which produced Bar Charts, Pie Charts and Line Graphs. No means of adding labels or altering presentation with shading is provided, but if you have a Snapshot facility the Screen\$ can be loaded into an Art Program for this purpose. There is a tiny but quite detailed instruction booklet. The two great drawbacks, and they are major ones, is that although Database Software went on to produce greatly upgraded professional versions for other computers, there has been no such development for the Spectrum. So Mini Office will only print out on ZX type printers (eg. Alphacom or Timex), and will only carry out file operations using Tape. The programs are all in Machine Code, unlike many of the others, making it impossible for those for us who can only work in Basic to modify them. A great pity. Surely it would be worthwhile someone producing a version which uses full size printers and disc systems?

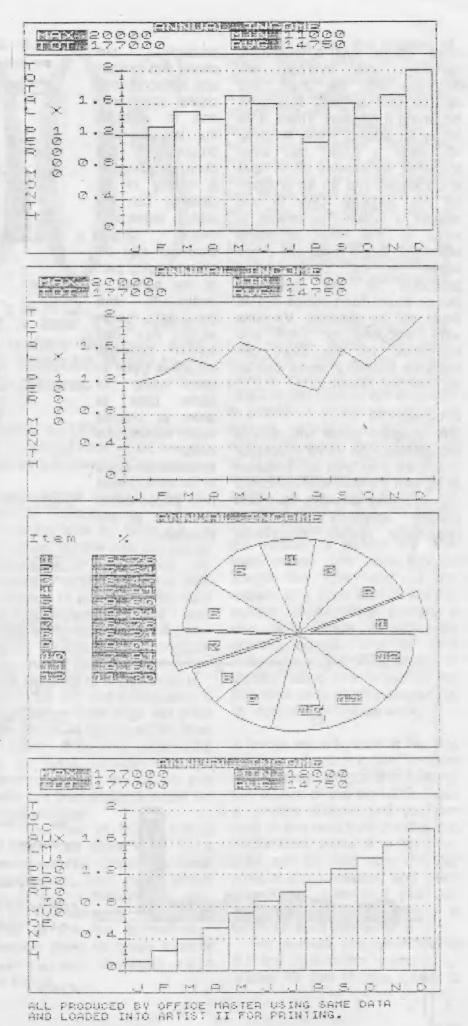
COMPACT OFFICE

Rather similar at first sight is Compact Office by Robtek, which comes on four cassettes; a Wordprocessor, database, home accounts and a chart maker. Each program is in Basic so, it is claimed, "you can change it to suit your own preferences". This is just as well as they are the most written bugged and badly programs I have ever encountered being sold commercially, so much so that at least one distributor has withdrawn them from

following complaints! Nevertheless the chart maker, called Turbocalc and described as a '3D WORKSHEET'. ELECTRONIC does look interesting. It produced just one type of chart, a 3D effect Bar Chart which can have up to four blocks one in front of the other so that it can look fairly sophisticated - or confusing? The Chart can be labelled along the top of the columns, and each of the four blocks can be labelled. One small bug here is that although you can have up to 15 columns, if you do the last few block the overwrite However, this does not happen if you use only 12 columns, for months of the year for example. The instructions are very brief, so a lot of trial and error may prove necessary to find the best way to get the right effect. However, keving Example in the Menu produced a Sales, Expenses and Profit chart and the data from which it is drawn, which is quite helpful.

OFFICE MASTER

If Compact Office is the worst written suite of program, Office Master by Gemini is probably the best and most professional, providing a database. control, final accounts, Easiledger, list, cash book, accounts and graph plot. With graph plot you can produce histograms, line charts, pie charts, X/Y point or line plots, and mathematical function plots. A detailed handbook is provided. Titles and axes notation can be input prior to producing the Chart (12 month annotation can be automatic from either January or April). With Histograms and Line Charts a cumulative result can be produced. Each segment of a pie chart can be exploded if required. Particularly useful is that although there is automatic scaling of the axes, this can be overridden, enabling you to alter the scale or the origin to produce the desired



ISSUE 4 SINCLAIR & SAM COMPUTING 11

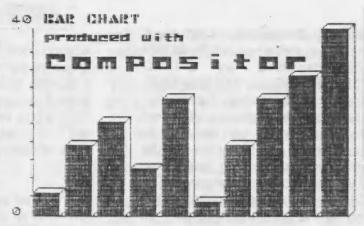
effect. Values such a maximum, minimum and average displayed with the chart, and detailed data is listed separately for saving if required. There is no facility for adding notes, shading, etc. after a CHart has been produced, so Screen\$ would have to be loaded into an art program for this purpose. Only in this respect is Graph Plot inferior to same of the other programs examined. It is a great pity Office Master is no longer being produced for Spectrum. the though sound hand copies can no doubt still be obtained. Versions were produced for Tape and Microdrive, but the Basic can easily be altered. It works well on my SwiftDisc system.

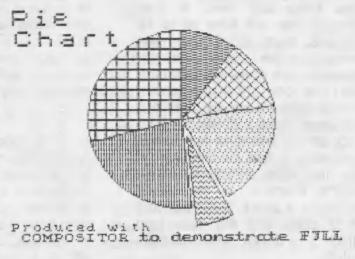
GRAPHMATE

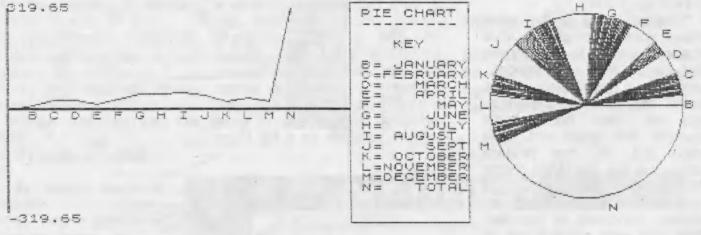
This program came with PCG's WordMaster, the Word Processor which will also print out graphics along with the text, and combined with Typeliner provides the much praised Spectrum and SAM pagemaker system. Graphmate

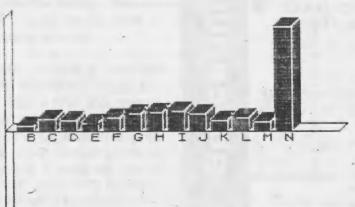
produces pie charts and vertical and horizontal bar charts (the only one to produce the latter). After producing chart, shading in a variety of fill patterns can be added, notes and even simple drawings can be added to any part of the screen. I particularly like the ease with which you can switch between the three types of chart using the data same in order to choose which version you prefer.

Instructions come in the form of brief help pages which are part of the program.









The three types of graph produced by MINIOFFICE.
They have been Saved to Disc as Screens using the SWIFTDISC snapshot button, then loaded into COMPOSITOR to be printed out using the facility to print four screens side by side.

Graphmate is in Basic and can easily be adapted.

COMPOSITOR

This program was issued in 1990 by Flexibase Software, producers FLEXIPAGE (which of reviewed in issue 2 of Sinclair & SAM Computing). It is for the 128k and 128k+2 computers and is described as "a cross between word-processing and desk top publishing", designed to produce posters, illustrations, pamphlets, in combined leaflets, etc. text/graphic format. Although it is a little like an art package such as Artist II or Art Studio, more emphasis is put on the use of text, with a bank of 11 character sets available, which can be printed in a variety of sizes. A strong feature is the ability to hold up to four screens which can be swapped around, manipulated and merged in various ways, and then printed either singly or side by side. The Graph function produces either a Histogram or a Pie Chart from up to 40 data items. The Pie Chart can have one segment pulled out of exploded, and the program's Fill function can be used to add a variety of shadings to segments or bars, whereas the Text function is available for labelling and adding notes. Up to four charts can be printed out together. I find this a useful program and one which is currently available.

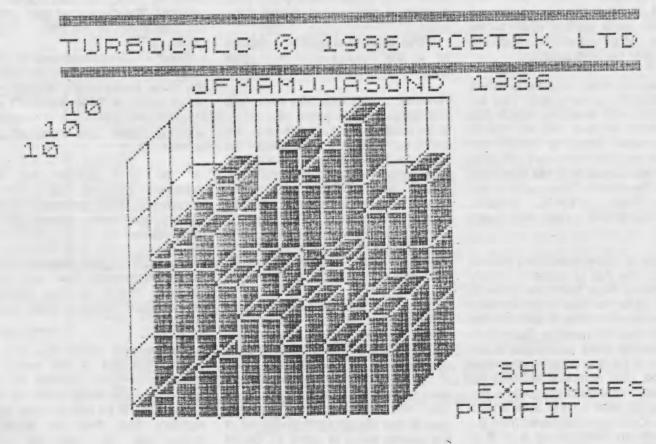
WHAT NOW?

I would be interested to learn if there are any other Chart Makers existence with significantly different features to those outlined. It seems to me to be a neglected area for some reason. I have subscribed to the excellent Outlet magazine from issue 1 and in all that time (nearly 50 issues at the time of writing) there has never been a Chart Maker as far as I can recall, though there have been many other useful design and print utilities.

I would like to see a Chart Maker as sophisticated as that

from OFFICE MASTER in addition to COMPOSITOR's facilities to enhance the presentation, and capable of using data from other programs such as Spreadsheets; most interesting would be one which can generate Pictograms with bars, etc. composed of numbers of appropriate UDG's available from a UDG bank, or pictures of varying size to represent quantities, etc. Surely this would be practical, especially on 128k machines? Or are we now going to find developments like this only for SAM?

C.Clayton.



Because of the relatively small capacity of 3" discs on the Spectrum +3, many users will have piles and piles of discs either stored tidily in a disc box, or like mine - in unorganised piles around the desk. However, even if you think you've got a good filing system for your discs, I bet that you still need to hunt through your collection of discs to find a particular program. The double-sided nature of 3" discs doesn't help matters either, as you have to do a CAT for each side of the disc to see if the file is there.

If the above scenario sounds familiar, then Kobrahsoft may just have the answer you've been looking for. Their Disk Management Software, now up to version 1.1, allows the directories of your entire disc collection to be stored in a database. Fast search routines can then be used to search for a file by typing in its filename, or part of its filename. DMS will then tell you which disc that file is on.

DMS provides you with a complete disc managing system, which as well as cataloguing your disc collection also allows you to format discs, erase files, etc.

Upon loading DMS, you are presented with a menu (much like the +3's own menu system) which allows you to enter either the indexing program or the DOS program.

Entering the index program is where the action is, so to speak. You are presented with a screen which has three main windows. We are now in 'View' mode. Pressing SPACE will take us into 'File' mode and will bring up the list of options at the right hand side of the screen. These options are: VIEW, FIND, UPDATE, INSERT, REMOVE, PRINT, LOAD, SAVE and DOS.

The easy to follow instructions manual instructs me that to create or modify an index we must select the UPDATE option. Now the disc to be indexed must be put into drive A: and the disc number must be typed in. Each file in the index is cross referenced to the number of the disc on which the file is on. The disk numbers need to be recorded on the discs themselves too, so a small label on the case should suffice. Disks are numbered from 0 - 999, with an extension of A or B to



Daniel Gamer investigates a utility for Spectrum +3 users which helps keep their disc collections organised.

denote the side of the disc. So for example, the sequence of discs would be 000A, 000B, 001A, 001B, 002A, 002B, 003A, 003B, etc. While I'm many on your may have upwards of 100 discs, I'm sure that nobody will ever reach the 999 disc limit.

Once the disk number has been typed in and RETURN pressed, DMS loads in the disc's directory and sorts it. It is then automatically placed in the index.

This process should be repeated for all the discs you have in your collection.

However, as this may take some time and computers are prone to crashing at the most inopportune moments, the SAVE option can be used to save the index to disc. You are prompted to enter today's date so that you know exactly when the index was last saved. The index is saved as a file called INDEX.IDX.

The index of files is displayed in the large window on the left of the screen. The cursor keys enable the user to scroll though its contents at will.

Finding a particular file in your collection couldn't be easier. Just select the FIND option and you are then presented with three further options: DISK, FILE or SPACE.

The FILE option allows you to search the index for a particular file. A very nice feature is that DMS will search the file as each character of the search string is typed in. So for

example, if you are searching for the file "LIFE.PRG", when you initially press L, DMS will go off and find the first entry in the index starting with the letter L and change the index display on the left of the screen accordingly. As you continue to type, it 'homes in' on the file you want.

The DISK option prompts you to enter a disk number, 003B for example. The display will then jump to the first entry in the index of disc 003B

The SPACE option shows you a list of all the individual discs currently in the index. Using cursor keys, you can select which of these discs you wish to interrogate - resulting in that disc's contents being displayed on the screen.

All the Find options are fast, extremely easy to use, and the inclusion of three separate ways to search the index caters for all eventualities.

The INSERT option enables you to insert information into the index manually, mainly so that details of non-standard formatted discs can be included.

If you only want certain files on a disc to be recorded in the index, for example on your Tasword +3 disc where you only really need the main Tasword file to be included and not its ancillary files, then the REMOVE option can be used to delete

individual files from the index. The Remove option can also be used to delete entire discs from the index.

The PRINT option allows the index database to be printed out to an Epson compatible printer connected to the Printer port of the +3. There are three printout options, either all the files in disc order, all the files in alphabetic order, or a print out of each disc giving the number of files on that disc and the free space upon it.

The LOAD and SAVE options are used to retrieve or update your INDEX.IDX file on disc.

The DOS option, which can also be invoked from DMS's initial menu, allows you to access the DOS utility.

The DOS Utility comes in two versions. The first is built into the Index program and is stored on the RAM Disc. The second is an independant file on the DMS disc. The only difference between the two is that the independant version can copy 80K of files at one time, while the other can only manage 64K.

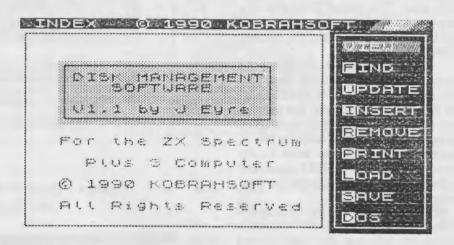
The program's layout and operation is much the same as with the DMS Index program, with a similar screen layout and the same menu system. The release of version 1.1 of DMS has meant the DOS utility, and indeed the Index program, can now read a variety of disc formats, from the standard 173K format, to the Amstrad CPC 169K and 178K formats, and even the 192K and 203K high capacity formats. The only commonly used format it can't read is the new 208K format.

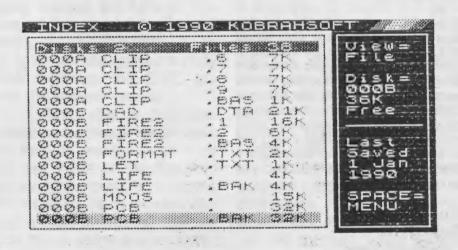
The DOS Utility can format discs to the aforementioned formats, with an option to format the 193K and 203K formats with an extended directory space raising the file limit per disc side from 64 files to 96 files.

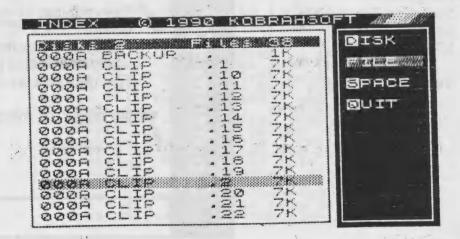
The program also allows you to do file management operations, such a file copying, erasing, renaming and changing file attributes (e.g. the protection, system and archive bits). A file's header data can also be looked at.

The DOS Utility also enables the screen colours used throughout the Index and DOS Utility programs to be redefined. Any changes are saved to a file called SET.IDX which is loaded









automaticlly at the beginning of each session.

Well, thats the Index and DOS programs covered. All that really needs to be mentioned are the Menu programs that are included on the DMS disc. The Menu programs are supplied so that you can add a front end to your discs to make file loading easier.

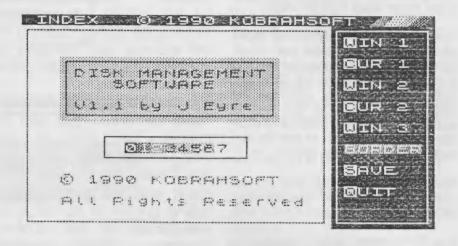
There are two versions of the Menu program on the DMS disc. The first will create a menu including all the files on the disc with the archive attribute set, while the alternative version of the program enables you to specify which files you want in the menu by including a REM statement in the menu program containing their filenames.

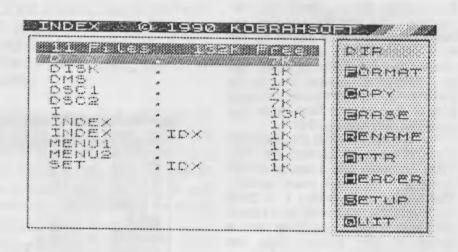
Both versions of the menu program work in the same way, and indeed in the same way as the DMS menu system. As I've said earlier, this menu system is easy to use and many users will find adding this Menu program to their discs a great help.

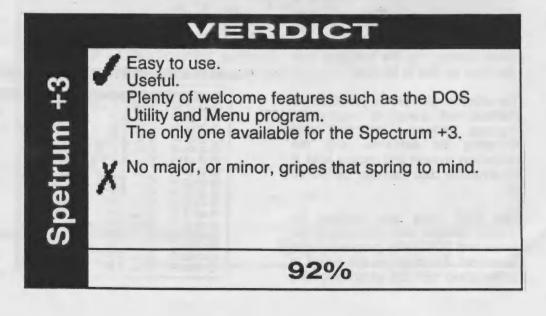
The package as a whole is well put to together. The software is easy to use and robust. ALthough the manual is good, I didn't find myself continually refering to it as the on-screen promts were very clear. J.Eyre, the author of DMS (who can only be described as prolific given his countless other utilities published by Kobrahsoft) has to be congratulated for the program. The package costs £14.95 and well worth it too.

Kobrahsoft,
Dept SSC,
"Pleasant View",
Hulme Lane,
Hulme,
Longton,
Stoke-on-Trent,
Staffs,
ST3 5BH.

Tel: 078 130 5244







VIDEO TITLING

In part 3 of our Video Titling series, we start to outline the features that we'll be building into our titling software.

In the past two articles I've showed you how video titling can be achieved from a technical point of view, and some of the ways in which we can create titles and manipulate them.

The overall aim of this series of articles is to build a complete video titling software program, initially for the Spectrum and then for the SAM. This article will outline some of the things we'll be building into the software - and I say "we'll" because I've receive a number of letters from people about the series and about some of the things they'd like to see covered. Although I've got a pretty accurate plan as to how the final program will work, I'd like you to comment on it and tell me exactly what you'd like it to do.

So if you have any more ideas after reading this article then don't hesitate to send your letters to the Editor at S&SC who'll then pass them onto me. With a bit of luck, I'll persuade Daniel to make the finished program available free, either as a cover disk/tape or for people to write in for.

The specifications in the box on the right are subject to change. This is because although I have already developed the vast majority of the program, I will be writing it over the next four or five issues of S&SC. While you may think that this is a long wait to get the completed program, it will be well worth the wait, mark my words.

As I showed you last month, fading a screen to black is easy, and fast to. However, a straightforward fade to black is

not that exciting. In the VideoPro program there'll be two types of fades available. Firstly, there's the fade to black,

VideoPro

SPECIFICATIONS (so far)

- Fonts
 Many different fonts will be available, from small to large
 The SAM version will feature multi-coloured aliased fonts
- Wipes, fades and scrolls galore.
- GUI environment
 Easy to use icon and pointer driven,
 Optional mouse control.
- Real time event editor
 Create a timed schedule of events.
- Music Writer support Music created with Music Writer can be played.
- Sound sample support Sound sample player.
- External modules
 Got a routine written in Basic that you want included in your sequence? No hassle. VideoPro will run it.
- Animation
 Full support of Flash animation.

Features still in the planning stage:

 MIDI support Trigger the sending of MIDI song files. and secondly there's the "fadeover-fade". The fade-over-fade is where one picture is replaced as second by fading the second over the first pixel by pixel.

The routine works okay in theory until you consider the problem of Spectrum and SAM DDE 1 attributes 'clash', whereby the second picture will ke on the colours of the original due to the way colour pata is stored.

The only way around this feature' is when each pixel from the second picture is faded onto the screen, you also place that pixel's colour attribute. As each attribute governs the INK and PAPER colours of an 8x8 pixel square, each attribute will be placed 64 times, thus slowing the routine down slightly. However, the overall effect is as we desire.

Of course, apart from MODE

1 graphics the SAM doesn't suffer from attribute crashes so the fade-over-fade routine is simpler. However, for MODE 3 graphics we must remember

that instead of a 256x192 pixel display, we are working with a 512x192 pixel display which means that our fade-over-fade routine will take longer to work. It also highlights the fact that we'll need a slightly different routine for the different display modes on the SAM.

As for wipes we have the bog standard horizontal and vertical wipes - either a wipe-to-black, or a wipe-to-picture - using similar methods as for the fade-over-fade where one picture is wiped to gradually reveal another. An important feature of any wipe routine is that it must have a variable speed to add variety to the wipe.

Although I have not yet attempted them, you could conceivable have diagonal wipes. Even more complicated is a circular wipe, sometimes also called an iris wipe, where either the screen is blacked out with ever decreasing black circles - as if looking through a tunnel. The technique was

much used at the end of cartoons such as Tom and Jerry. A more complicated routine would be a circular wipe where a second picture is revealed.

The final segment of our effects routines are the scrolls, of which there will be four - up, down, left and right. Each will have a variable speed to add variety. Those programmers amongst you may already know that shifting around SAM's MODE 3 and 4 displays takes a fair bit of time and so our routines must take account of However, as I am concentrating more on the version Spectrum moment. I've got a bit of time to optimise my SAM scrolling routines for speed.

The most important part of VideoPro will be the event editor. It will enable the user to define exactly what happens in his sequence and when. Some types of events can be mixed

JARGON

Aliased fonts - a method by which the jagged edges on characters displayed on screen are eliminated by filling them with lightly shaded pixels so that they appear smooth.

Font - a particular typeface and typestyle, e.g. a Roman typeface which has an italic typestyle.

GUI - Graphical User Interface. A program which conveys its instructions by graphical means. For example, GEM on the IBM PC and ST and Workbench on the Amiga.

Jog Shuttle - feature of modern video recorders which enables videos to be played forwards or backwards at slow speed or even frame by frame.

MIDI - Musical Instrument Digital Interface. A means by which electronic musical devices can communicate with each other.

so they happen simultaneously such as pictures and sound. The editor will enable a set of events to be looped a finite or infinite number of times.

However, due to the relative lack of speed of either the Spectrum's or the SAM's processor the event editor, and indeed the person using it, will need to be 'crafty' in the way it achieves simultaneous events. example, neither Spectrum's or SAM's processor could handle playing a sound scrolling sample and screen. without either the sound sample quality being terrible or the screen scrolling becoming jerky. So what we do is we allow the whole sequence to be recorded to VCR minus the sound sample playing - thus keeping the scrolling at its top speed. Because the event editor times breaks events down into timed segments, we can then rewind the VCR to the start of the sequence we've just recorded - with the aid of the VCR's jog shuttle if it has one. Now we can set the VCR to audio dub mode (which most VCR's have these days) and now let the event editor replay the sequence and at the point at which the scroll would occur, the sample is played which is then recorded onto the audio track on the VCR. The result is video recording which has a sound track synchronised with the visuals.

Unless someone brings out an accelerator board for the Spectrum or SAM, then I can see no other way of achieving the desired results.

The same method may have to be used with the Spectrum version of VideoPro's ability to Music Writer play files. Although Garry Rowland's code for replaying MW files compiled with his COMPILER.XTN utility accommodates the music running as a continuous called service routine. However, the more graphically intensive routines may take up too much event time and could result in the music playing too slow.

Well, that about wraps up the program design as it currently stands. Now that I've been given a decent wedge of pages each issue I can get down to the nitty gritty of program listings next issue.

In the meantime, I would appreciate any comments you have on the project. Until next time.

I enclose my subs for the next six months. May I add how much I look forward to each monthly issue of DUTLET coming through the post box and how delighted I am with the contents. J.W.

.. OUTLET is undoubtedly the most intelligent and interesting magazine for the Spectrum - please keep up the good work. 151/AP UTLET"

AND SPECTRUM

UTILITIES USEFUL &

.. the standard maintained by SAM COUPÉ the disappear dedicated so enthusiasts a QUTLET.

.. DUTLET keep!

I'd like to say month producing but they are cer high standard of

.. I've been with UUILET for a year now, and I can say it's one of the smartest moves I've made for ages, the quality is excellent, the service reliable and efficient and the variety of 168/23 programs is extensive.

.... my thanks for the many pleasurable hours I have had with your tapes I hope you go from strength to strength. 175/25 Thanks a lot for the excellent DUTLET No. 035 disk for SAM ... was facinated with all the information and demonstrations. The SAM information will be especially helpful to me ... thanks again for all your efforts.

GRAPHICS INFO AND

INTERESTING HOMEGROWN SOFTWARE!! of OUTLET. The t runcing s. Thanks for o letters

at publicati

177/83

Monthly since 1987 - now on ALL of the popular SPECTRUM systems SPECIAL OFFER - First time buyers send only \$2.50 for the latest issue on PLUS 3 DISC, DISCIPLE/PLUS D, OPUS, MICRODRIVE,

Chezron Software, 605 Loughborough Rd, Birstall, Leicester LE4 4NJ must say how impressed I am with the ever increasing quality of OUTLET ... for example PROCROSS was, in my opinion, one of the best utilities for the Spectrum I have ever seen.

I found your software easy to use, useful and enlightening 195/8

Once again I am impressed with the first class service and care you give your customers. Unique! is the only word that fits ... Thanks again for the trouble you have taken to produce a 5.25" disk of OUTLET to run on the SAM.



I have been for the last few years using The Last Word with a Spectrum and Disciple but only recently acquired a SAM Coupe. One of the reasons I have held back is that a fair oportion of use is with a WP

and I saw little point in using a SAM in Spectrum mode to use a WP that ran quite happily on the SPectrum.

With the increase in SAM specific software and the coming of OUTWRITE, a word processor especially written for the SAM, decided it was time to take the plunge.

Now there is the tendency to compare any software with what was previously available or with what has been in previous use. I have decided to review OUTWRITE as a program in its own right and not to try to make comparisons.

The criteria I applied was: how easy it is to set up the program to your own system? how easy it is to get to know and use the program?

does it do the things that I (with the emphasis on "I" as each has their own requirements and ideas) expect to need in a word processor?

Being SAM specific there is not

to users' needs.

The program is on disc and 16 comes with a page handbook. After the autobooting disc has loaded, you are presented with a menu of 9 options.

GO TO THE TEXT EDITOR CHANGE THE DRIVE (1)

ERASE A FILE FORMAT DISC INF DRIVE

THE WORKING COPY

EDITOR COLOURS

USER BASIC (30000 OH) LOAD CHARACTER SET No

the problem experienced with Spectrum WPs in having to customise to the multitude of print interfaces. microdrive. tape or disc. The only thing that whether settina is Outwrite sends a line feed to the printer with a carriage return or not. However, this does not mean that it does not provide facilities for customising

1 go into WP mode, 2 change drive, 3 erase a file on disc, 4 format a disc, 5 save a working copy (the program is not and as protected printer and disc functions are in BASIC it is open for individuals to alter if they wish), 6 change colours. 7 exit. 8 user basic (this allows additional BASIC to be

written in and entered, for example to manipulate printer, although some printer control codes are already. contained in the program), and 9 load character set (the disc comes with a number of different character sets for onscreen display).

The first thing is to obviously

OUTWRITE! (c) RJW 1991. Distributed by Chezrom Software

PRESS EDIT THEM...
..Copy marked block.
..Go to bottom of the file.
..Clear the text file. C...Clear the text file.
F...Re-format paragraph.
I...Insert on off..
J...Justify on off..
L...Load a text file.
M...Merge a text file.
P...Send file to printer.
Q...Quit to Basic menu.
S...Save text file.
I...Go to top of file.
W...Word wrap on off.
X...Enter printer control code.
Z...Change printer options.
F7...Mark start of block
F9...Mark end of block
DELETE..Remove block markers

FUNCTION KEYS ALONE... FUNCTION KEYS ALONE...

F0...Word count (toggle).

F1...Justify line.
F2...Unjustify line/para.
F3...Justify a paragraph.
F4...Jump back to last word.
F5...Go to left/right border.
F6...Jump to next word.
F7...Pull line left to cursor.
F8...Centre the line.
F9...Push line right from crsr
SYMBOL +...
Cursor left..Go up 1 screen.
Cursor Right.Go down 1 screen.
Cursor Up....Delete line.
Cursor Down..Open(insert)line.
F keys...numbers
SINGLE KEYS... F keys...numbers
SINGLE KEYS...
RETURN...Down a line and left.
TAB...Go to next tab position.

make a back up copy of the disc. This is best done with normal backup methods as the menu option does not copy everything, such as additional character sets. It just makes a copy of the WP program itself.

The various options are really explanatory, SO example, selecting option 1 will take you into the WP text editor mode.

The top of the screen displays the current status such as page, line and column number, file length, insert on/off, wrap on/off, justify on/off and CAPS on/off. This list gives indication to the number of text formatting options that are available.

At the time of writing, the page width is fixed at 64 characters. but I understand that a variable margin modification is currently being worked on. One of the things I like about it is the way editing has been arranged. To go into edit mode you simply have to press the EDIT key then the appropriate key.

The various functions activated by these key presses are easy to remember as most are the initial of the function. For example, pressing I toggles the Insert mode, S for save text and P for printer. There are also those which are accessed with SYMBOL + key. In all there are 36 functions and if you cannot remember them all. by pressing INV you are shown the complete list on the screen. I do not see any point in going into detail of each function, but to help you to decide if it suits your needs here is the list: copy block, move to start or end of the file, clear file, reformat paragraph, insert on/off, justify on/off, load file, merge file, save file, print file, word wrap on/off, change printer options and control codes, jump cursor back last word, paragraph up/down, move cursor up or down one screen at a time, centre line of text, insert line, tab. As you see it has a fairly

OUTWRITE! Printer Control Help Page. (c) R.J. Wilkinson 1991

Press EDIT then X then one of the following to enter a printer control code. Upper case= on. Lower case= off.

B...Bold. C...Condensed. D...Double strike. E...Emphasised. H...Double height. Italics. ..NLQ. ..Master reset. ...Master reset.
...Overscore.
...Proportional.
...Reverse.
...Subscript.
...Underline.
...Double width. 1...User def 1 2...User def 2

This screen can be used to save the text file as a SCREEN\$... The screen will be created as from the cursor position at the left hand margin. You will lose this help page if you use this function until you next reload the program. Pressing S from this page will display your selected screen. Pressing RETURN will exit back to the text file, Pressing INV will display the previous help page. Pressing C will save this screen as a SCREEN\$. Using SYMBOL plus F will turn inverted printing on and SYMBOL plus G will turn inverted printing off again. Both these help pages were created using this function.

comprehensive list.

The WP already contains 14 print control codes and two spare for you to use. The predefined codes can be changed if required and the handbook explains how clearly. The list of the print control codes can also be viewed in the same way and the function list as described above.

So having written your masterpiece you obviously want to save a copy. EDIT + S first does a directory of the disc then asks you to enter a file name. When entered, the file is saved and verified, then you are taken back into the text editor.

When you want a printed copy of your text, you simply press EDIT + P and you are given a choice of printout onto single sheet or continuous stationery. After printing you can then repeat print or return to the text editor. The change print option (EDIT + Z) lets you select auto LF on CR if your printer need it, as well as the top of page gap, length of page, form feed to next sheet, left column margin and select page number to

and select page number to start printing at. There changes can then be saved as a customised copy if required.

I should mention that if a selected option fails, the program traps the error and reports it and lets you return to the WP, e.g. trying to do a save without a disc in the drive.

On the subject of printers the program is suited to Epson compatible printers.

The last 4 pages of the handbook give detailed information on printer set up and the appropriate sections of the program that contain the printer data.

Outwrite will accept Tasword 2 text files but I have not been able to test this option. However, I have loaded The Last Word text files into Outwrite albeit with the result that a fair bit of editing is due due to the fact the the different programs use different methods to mark the end of a line.

A short review cannot really do full justice to such a complex program but I hope that this review has given you an insight.

In conclusion, Outwrite will do all things I have ever needed to use in The Last Word and when the variable margins option is developed by Chezron it will stand on par with WPs for other computers.

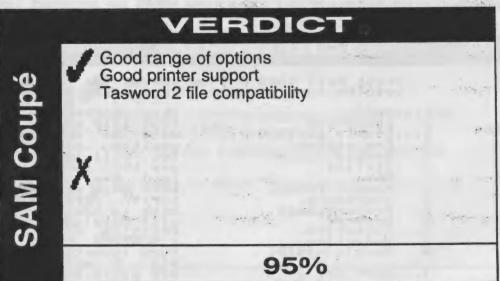
How easy the program is to use is best demonstrated by the fact that I had it about a month before I had a printer interface.

Apart from a quick "play" when Outwrite arrived it had not been touched until the interface arrived. I was then able to use Outwrite without reference to the handbook which has only been used since while writing this review just to check the odd fact here and there.

OUTWRITE is available from:

Chezron Software 605 Loughborough Road Birstall Leicester LE4 4NJ.

It costs £15 with a discount to OUTLET members.



Software for the SAM COUPE

£12.50

SC FILER

A POWERFUL SAM DATABASE



MAIN FEATURES

99% Machine code, Massive capacity storage 128K(256K Sam),384K(512K Sam),Data compressed Displays 4 different Mode 3 layouts, you define fields of any size,position,colour and charset, Auto sorting on any field, search buffer finds records you want, Lprint upto 4 different layouts

SC_FILER the Database program, is a very easy to use, yet powerful and flexible enough to keep any type of information you need, from a simple Address file to business files for Clubs and small Companies. From a touch of a key you can add, edit, insert, Wipe, List and Search, also SC_FILER can be used as a mini word processor with its word wrap, justify editing features. SC_FILER comes with a 25K demonstration Z8O MC database and a 20 Page professional Manual. I can also convert your GM_BASE and LERM Address Manager files to use on SC_FILER.

£12.50

SC ASSEMBLER

MAIN FEATURES

99% Machine code, 64 col friendly auto tabbing editor for ease and speed, Recognises the full 798 opcodes, incl 120 undoc, Assembling on pass one gives code start,end,no of bytes, Full listing to screen/printer, buffer search, Store 96K source, 40K Assembled code(256K Sam), 288K source, 64K Ass code(512K Sam), Data Compressed, incl Dissasembler.

SC_ASSEMBLER is a very easy to use editor Assembler, just type in the text even with no spacing and SC_ASSEMBLER will reposition and do a comprehensive check, if any errors displays in clear english what is wrong, easy enough for the beginner, yet powerful enough for top programmmers who have already used my Assembler to program Top Sam games. With Source files to get you started and a professional written 45 page Manual you can't go far wrong.

£1.50

SC_PD1

On Disc with 14 page Manual are the following (avail elsewhere on PD) SC_SPECLONE, SC_COMPRESSOR, DISC DIRECTORY UTILITY.

60p EACH

PRE-FORMATTED 31DSDD 135tpi SAM COUPE DISCS, READY TO USE IN COLOURS WHITE BLACK RED ORANGE YELLOW GREEN

£5.50

£6.50

£7.50

QUALITY DUSTCOVERS IN PURE WHITE WITH BLUE TRIMMING WATERPROOF, MACHINE WASHABLE, NON SHRINK, NON FADE, NON TEAR IF ORDERING MONITOR OR PRINTER PLEASE STATE MODEL

FAST ORDERS Need any of the above items quickly, then just phone from 6pm-7pm First thing next Morning your order will be despatched, when goods reach you, just send a cheque or postal order for invoiced items.





O223 235150 6pm - 9pm



FRED



NOT ONLY WAS FRED THE FIRST EVER COUPÉ SPECIFIC DISC MAGAZINE, BUT IT WAS - AND STILL IS - THE MOST AFFORDABLE

For only £1.50 you can purchase the latest issue (number 15) or any of the back issues which you may have read about.

Not only does each issue have news, programming tips, game cheats, interviews, reports, reviews, previews and numerous other articles but it is also packed to the brim with games, demos, screen\$, utilities, tutorials, handy routines, screenshots and many unusual, yet fabulous programs.

CRASH - "the most professional...excellent...hilarious...brilliant...action packed"
Alan Miles - "prolific" (!?) YS - "tasty...a veritable snip"

£1.50 per issue, £8 for 6 months or £15 for 12 months

FRED 40 ROUNDYHILL, MONIFIETH DUNDEE, DD5 4RZ.

VTX 5000 - V23 MODEMS V/DATA S/W 48K - £15 +2A/+3 - £20 128/+2 (RING) THE FOOT DR SCROLL FOR VTX 5000 - SCROLLING £5 TERMINAL 2-WAY RIBBON CABLES FOR VTX 5000 £8.50 VTX 711 RS232 MODEM I/FACE WITH S/W AND LEAD FIXIT ALLOWS 48K ADD-ONS TO WORK ON £9.50 +2A/+3 PD TAPE 01 - SPECTRUM COMMS 21 COLLECTION CURRAH µ/SLOT (HARD 2 PORT ADAPTOR) KEYBOARD MEMBRANES WITH FITTING INS: 48K (RUBBER TYPE) £4.50 £7.50 SPECTRUM + AND BLACK 128K £3.50 TAPE LEADS

FD1 - 3" DRIVE FOR CPC & PLUS 3 (NO £45 CABLE) PACE LINNET (V21/V23) MODEM - BADGED AS HUSKY (NO CABLE) LIMITED SUPPLY €45 £15 DATACHAT 1223 MODEM (V23) ADAPTOR CABLE FOR ABOVE £2 AMSTRAD CPC RS232 INTERFACE WITH COMMSTAR ROM £15 DIAL UP - COMMS S/WARE FOR BBC OR PCW MACHINES £7.50 SPECTRUM SPARES - PLEASE ENQUIRE

OVERSEAS - PLEASE ADD £2 EACH FOR MODEMS £1 EACH FOR OTHER ITEMS.

SAM PRODUCTS

£6.50

£6.50

SAMPLIFIER - STEREO AMP POWERED FROM SAM. CAN DRIVE SPEAKERS OR PHONES

AMP - £20 AMP + SPEAKERS £25 AMP + HEADPHONES £23

CP/M EMULATOR. NEARLY READY - WRITE FOR DETAILS

B.G. Services

SPECTRUM RS232 CABLE FOR 128K

INTERFACE 1 - RS232 CABLE

MACHINES

64 Roebuck Road, Chessington, Surrey, KT19 1JX. Tel: 081 397 0763 Fax: 081 391 0744

The +D and Disciple get a new DOS which expands upon GDos and unites the two disc interfaces at the same time. Malcolm Perry tests it to see if it lives up to expectations.

The +D has been around now for a few years and the Disciple even longer. In my opinion they take some beating as a disc and printer for upgrading interface Spectrum. I have been using both interfaces now for a number of vears and thought it did virtually all would ever need. The one restriction I did find was that being a user with a lot of short routines. the 80 file directory soon filled up although there was still a lot of room left on the disc.

Now a new ROM and DOS has become available that extends the capabilities of the +D and Disciple considerably. Not only does it allow multiple sub directories, but it extend the screen dump facility previously unthought possibilities as well as adding many additional functions to the DOS.

With such a major change it is remarkably compatible with the original DOS on both interfaces.

I should however, say that there are programs that will not run on the new UniDOS system. This is chiefly because they make calls directly into the +D/Disciple ROM or install themselves into or

modified the DOS code. However. all the official hook codes are still valid as is the basic GDos system.

Directories are a major change. UniDOS defaults to, and is compatible with the GDos 80 file restriction, but the user can set up many sub-directories required. You can also have subdirectories of sub-directories, upto any level of nesting. You are only limited by the capacity of the disc.

As the sub-directory principle has already been covered in the SAM MasterDOS review in issue 1 of Sinclair & SAM COmputing, it would be pointless to go into great detail here. In fact, UniDOS does for the Spectrum what MasterDOS did for SAM. However, for the benefit of readers that did not see issue 1, a brief example would not be out of place.

The main or ROOT default directory can branch off to a number of sub-directories. Each sub-directory can have further sub-directories branched off, and so on. This can go on for as many times as you like, but as each directory takes up space there is trade off: more directories = less file space.

There is also the problem of being buried deep in multiple directories and apparently 'loosing' a file simply because you've forgot where you put it. On the other hand, it does mean that files can be grouped together. Things are made easier in that any directory can be made the current directory and if you have two discs drives you can have different current directories. There when a CAT, LOAD, etc are used it uses the current directory so will catalogue, load, etc from any sub-directory the user wishes.

The next major change is the way screen dump has been expanded. The original system gave a choice of two sizes. With UniDOS, the options are extended to provide a choice of upright or side on, include or exclude colour data, a choice of magnification of up to x8 scale on both the x and y axis, and the actual area of the screen to be printed can be specified. Add to this the printer margin can be specified as well as the number of passes the print head makes over each line (to govern the "blackness" of the output), and you'll start to see the various combinations provide a very wide range of print out options indeed. This in itself makes the new DOS attractive to anyone using the Spectrum for jobs such as producing magazines for local club or display work.

A further usual function is that you can now write to and read from the disc directly without the need to use d.t.s.m of the old DOS. Open a random channel and you can write to and read from the disc and sector level, rather than file level. Data can be read from the disc straight into variables, and using the POINT command you can position where exactly data is written or read on the disc.

For example, you can POINT to the first byte in the header of an erased file and change it back to its correct value and so recover the file. Or read directory names directly into a program. In fact, this facility enables a file recovery program to be written in a few lines of Basic.

I will now simply go through the list of functions to give some idea of what is included (I have omitted some of the obvious ones such as CAT, SAVE, etc).

MOVE (replaces SAVE TO and does not now reset the system)
MOVE OVER automatically overwrites file on the disc of same name

MOVE TO moves data between channels

ERASED NOT does not give an error report if the file does not exist

SAVE OVER automatically overwrites of existing file

LOAD P now can be file number or name

MERGE P same as for LOAD P, except the file is merged instead POINT allows the file pointer to be positions within a random access file.

IN Dx selects drive x and with extensions points to the current directory

LINE xx error trapping, i.e. on error goto line xx

The BREAK key can also be disabled

(peek @) peeks a location in DOS

(LEN #) returns length of random file

(point #) returns position of pointer within random file (in #) reads bytes from a channel as a string

FORMAT is now a separate routine that has to be loaded from disc. I find that this is not a problem although I must now remember to keep some pre-formatted discs at the ready. It was left out of the DOS apparently to make room for other facilities.

I must point out that the upgrade to UniDOS does involve opening up the +D/Disciple and changing the ROM chip. However, having changed two Disciples and a +D I did not find any problems and the handbook is quite detailed in what has to be done.

Once the change has been made the DOS is common to both the Disciple and the +D. While the DOS's syntax, etc is common to both interfaces, the ROM chip itself is different so it is essential to specify which system you are using as well as disc size and format to ensure you get the correct ROM.

The 30 page handbook gives all the information you need although a bit of hunting is needed to find some of the related information. For example, while details of multiple directories is around page 16, the information needed to actually set them up is at the bottom of page 21. It also took me a while to work out that <==> in the manual's directory syntax explanation was. It was actually part of the syntax but meant "add in the directory path names as required" - perhaps it was me just being a bit thick! It is easy to see how a newcomer could get a bit confused. Having said that, the handbook is in general informative and helpful.

The upgrade is not cheap, but in my opinion well worth the money for the additional functions and facilities it offers. I do consider that it is probably likely to be of more interest for those who do a lot of their own programming but the added screen dump flexibility and disc sub-directories should find use in virtually everybodies' usage.

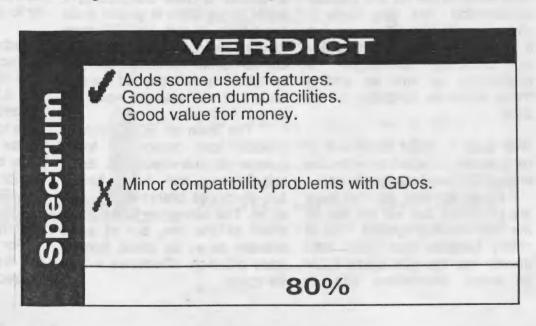
It must be remembered that UniDOS's extra commands and sub-directories will not be recognised by GDos and as I mentioned earlier the compatibility problems that some programs present.

UniDOS is available from:

SD Software Rainhall Road Barnoldswick Lancashire BB8 6AB.

Price: £25.95 plus 50p postage.

REMEMBER to state full details of the disc interface you are using together with the disc size and number of tracks.



MICRODRIVE Story

When the Microdrive was introduced for the Spectrum in 1984 it was regarded as another Sinclair miracle, and like all products in the early days it was immediately snapped up by eager Speccy users.

As usual for Sinclair, the first production cartridges were a bit doday but this was soon overcome and nearly 500,000 **Expansion Packs** were sold.

To some extent. disappointment with the subsequent Spectrum's, the +2A and +3 (which ... are not Microdrive compatible), has influenced Spectrum owners to stick with the 48K and 128K Spectrum and update this with the Expansion Units

Brief technical data and prices





ZX Microdrive £49.95

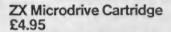
Including one cartridge with sample program.

Function: Fast-access mass-storage device, storing programs, blocks of code, screens, arrays, and data files on interchangeable cartridges, each cartridge with at least 85K bytes capacity.

Cartridges are initialised with the FORMAT command; and contents may be read with the CAT command, which displays the cartridge name, up to 50 files on the cartridge in alphabetical order, and the free space in kilohytes. Files may be and the free space in kilobytes. Files may be

deleted with the ERASE command.

If the first command entered into the Spectrum after switch-on is RUN, then the Microdrive will automatically load a program.



Function: storage medium for ZX Microdrive. Capacity at least 85K bytes.

Physical: push into Microdrive. Detachable lug prevents erasure of contents if required.

Supplied: singly with an order form for repeat purchases.

Physical: the first Microdrive is connected to Interface 1 using the Microdrive lead supplied with the Interface 1. Subsequent Microdrives to a total of 8 in all may be connected using the Microdrive connectors. They are powered from the ZX Spectrum's power supply, and a red indicator lights up to show activity.

Supplied with: Microdrive connector, instructions. and sample cartridge carrying demonstration program (which may be erased), and an order form for blank Microdrive cartridges.

Guarantee: 1 year.



ZX Interface 1

Function: allows programs and data to be sent to or received from a ZX Microdrive mass storage device; an RS232 interface; or a Spectrum local

£49.95

(£29.95 when bought with Microdrive.) Manual supplied.

In software, these devices are known as Function: industry standard serial interface

allowing Spectrum to transmit at all standard baud rates (50, 110, 600, 1200, 2400, 4800, 9600, and

19,200 baud). Speed software-selectable. Housed in Interface 1.

Optional extra: special RS232 lead, available from Sinclair at £14.95.

channels, and may be accessed from BASIC by using SAVE, LOAD, VERIFY and MERGE, or by OPENing a stream to them and using PRINT, INPUT, INKEYS and LIST. MOVE command moves data from one stream or channel to another stream or channel.

Physical: screwed to base of Spectrum.

Supplied with: screws, Microdrive lead, Net lead (with jack plugs), manual.

Guarantee: 1 year.



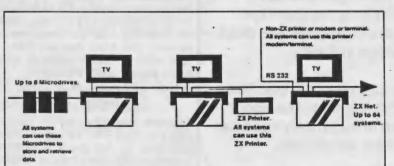
The ZX Net

Function: high-speed communications link between up to 84 ZX Spectrums, each equipped with Interface 1. Data is passed over the net at 100 kbaud, and protocols ensure that both 100 kbaud, and protocols ensure that both stations are ready before data is passed. Data may also be broadcast over the ZX Net to all Spectrums listening.

The ZX Net allows a single Spectrum to act as a printer-server or file-server for other Spectrums, and opens the way to games between two or more Spectrums.

The ZX Net must not form a closed chain.

Supplied as: Net lead, included with Interface 1. Length: 2 metres, with jack plugs at ends



as a less expensive, and more reliable expansion.

Bill Richardson of EEC says, "we have now been selling Expansion Packs for five years, and while I am somewhat embarrassed about our advert which has said - the last chance to buy - we still have managed to sell quite reasonable numbers to new users as well as supplying replacements to old users. The problem is finding the cartridges which are now out of production...although we still hold substantial stocks".

The production stopped when BASF were unable to supply Ablex with the high grade video tape needed for microdrive manufacture. Ablex where not interested in restarting production due to the large royalty Sinclair Research still receives on each cartridge sold - apparently Sinclair Research earn more money on each cartridge sold than Ablex does.

As well as the Spectrum, both the QL and ICL's One Per Desk computers use the microdrive system, and although many users have upgraded to disk systems, those users who are either unwilling or unable have had an uncertain time of obtaining cartridges.

However, against all the odds back in June 1990, Ablex recontinued their production after a source of high grade tape was found.

It seems that Ablex only agreed to continue if Sinclair Research lowered its royalty rate. Sinclair obliged and a further 50,000 cartridges were manufactured - much to the delight of Spectrum, QL and OPD users.

Interface 1 and Microdrive is destined to continue for as long as there are cartridges available. When Ablex stopped producing the cartridges everybody thought that the Microdrive was dead, but its still got some mileage in it yet.

Interface 1 on its own is still a bargain buy. Not only do you get an RS232 interface, but also a networking system which unfortunately has been under-exploited by software developers.

E.E.C. LTD

YOUR LAST CHANCE TO BUY!
ZX EXPANSION PACK

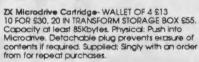
ZX EPANSION PACK WITH INTERFACE, 1 MICRO-DRIVE, FLEX AND NETWORKLEADS, INSTRUCTION BOOK AND DEMO CART. £59.95 WITH 2 MICRO-DRIVES, £69.95



ZX MICRODRIVE - EEC PRICE \$24.95 ONLY including Demo Cart and Solid Connector (2 for \$44) RECONDITIONED \$18 Function: Fast-access mass-storage devise, storing programs, blocks of code, screens arrays and data files on interchangable cartridges, each cartridge with at least 85K bytes capacity. Cartridges are initialised with the FORMAT commands; and contents may be read with the CAT command, which displays the cartridge name, up to 50 files on the cartridge in alphabetical order, and the free space in kilobytes. Files may be deleted with the errors command.

If the first command entered into the Spectrum after switch-on is RUN, then the Microdrive will automatically load a program.

switch-carts Role, the first evilicities will authomatically load a program. Supplied with Microdrive connector, instructions, and sample cartridge carrying demonstration program (which may be erased), and an order form for blank Microdrive cartridges.









Minimum order £10-Postage and Packing \$3. Overseas add \$6. Terms C.W.O. or Visa

Some items may be reconditioned Orders to: EEC LTD, 18-21 Misbourne House, Chiltern Hill, Chalfoni St. Peter, Bucks SL9 9UE. Tel: 0753 888866

Let this space work for you.

To advertise call **0582 472067**

and ask for Daniel Garner

FLEXIPAGE

The Spectrum / Sam text and graphics author for beginners to experts. Whether or not able to program computers, you can now write your own INTERACTIVE ADVENTURE GAMES, EDUCATIONAL EXERCISES, FREE FORMAT INDEXES and AUTOMATIC DISPLAYS using variable sized words and SCREEN\$ pictures. With UDG designer, FREE Crime Quiz & Advert. demos. Sam versions include character designer, FLEXIMAG SCREEN\$ ENLARGER and FLEXIPAL PALETTE COLOUR BLOCK DESIGNER for use with or without Flexipage & FREE UPDATES.

Supplied to 14 Police Forces and seen on T.V.

Spectrum tape (Opus/Mdrive compat.) +D/+3 or Sam disk NOW ONLY £8 FOR SPECTRUM, £12 FOR SAM COUPE.

Send SAE for full details to FLEXIBASE SOFTWARE, 20 THE PARKLANDS, DROITWICH, WORCS. WR9 7DG.



Functions

Like many other languages C contains a set of standard which perform functions mathematical operations. They listed opposite. Most versions of C store functions in the math.h or stdlib.h libraries.

User defined functions

Defining functions in C is easy. The syntax to set a function up is as follows:

[return variable type] funcname(param1,param2,) parameter defs;

any local variables:

statements: more statements:

return (value)

A function returns only one value. If the type of this value is a char, float or double then we must declare it as such. If the function merely carries out a task which does not return a value abs (n)

The parameters that the function needs to use must be declared straight after the actual function description. If they are not, you will get an error.

then the function type can

be defined as void.

Any variables which the function declares are known as local, and do not affect the values of variables called the same name outside the function.

The program on the following page demonstrates a userdefined function in action.

Using Pointers with **functions**

Pointers can provide a way of directly altering values variables with a function. If ordinary variables are used with. functions, the rest of the program, i.e. other functions and the main program, are totally unaware of their existence and so cannot be changed.

If we use pointers however, we are passing the memory address where the variable is stored, and so it can be changed from within a function.

Pointers to Variables Using the age old example we'll function of swap. demonstrate how pointers work.

FUNCTIONS

acos (n)

asin (x)

atan (x)

atof (ch)

atoi (ch)

atol (ch)

cos (x)

cosh (x)

sin (x)

sinh (x)

tan (x)

tanh (x)

ecvt (x)

exp(x)

fabs (x)

labs (x)

sqrt (x)

log(x)

Absolute value of n Arc-cosine of x Arc-sine of x Arc-tangent of x Converts string to number Converts string to integer Converts string to long Cosine of angle x Hyperbolic cosine of x Sine of angle x Hyperbolic sine of x Tangent of angle x Hyperbolic tangent of x Converts number to string Raises e to the power of x Absolute value of x fmod (x,y) Calculates remained of x/y hypot (x,y) Calculate hypotenuse Absolute value of x Natural logarithm of x Logarithm to base 10 of x log10 (x) poly (x,n,c[]) Generates nth polynomial in x; Raises x to the power of y pow(x,y)rand (void) Random number generator

Square root of x

```
/* FUNCTION - AREA OF A CIRCLE */
 #include <stdlib.h>
 #define PI 3.14159
 double area();
 main()
. {
  double radius, result:
  printf("Type in radius of circle");
  scanf("%lf", &radius);
  result=area(radius);
  printf("\nRadius = %lf\n",result);
 double area(r)
  double r;
   double area:
   area=pow(r,2)*PI
   return (area);
```

Explanation

As you can see, the function called area is defined after the main program - this is normal procedure.

In the main-program the result=area(radius) statement is where the main{} subroutine passes the radius inputted to our user defined function.

In the function itself, the function definition comes first, followed by the parameter declarations and then the function statements within braces.

The function returns the area of the circle to the main program, whereupon the results are printed on to the screen.

```
void swap();
main()
{
  float a,b;
  printf("Type in two number: ");
  scanf("%f %f",&num1,&num2);
  if (num1 < num2)
    swap(&num1,&num2);
    printf("\nNew order is: %5.2f
%5.2f\n",a,b);
}
void swap(pntnum1,pntnum2)
float *pntnum1, *pntnum2;
{
  float temp;

  temp = *pntnum1;
  *pntnum1 = *pntnum2;</pre>
```

```
*pntnum2 = temp;
```

In the program above, the statement temp = *pntnum1; will be interpreted as: take the contents in the memory location pointed to by *pntnum1 and place them into the variable called temp.

Statement *pntnum1 = *pntnum2; will interpret as: place the contents of the location pointed to by *pntnum1 into the location pointed to by *pntnum2.

Thus, the two variables, num1 and num2 are swapped. Note also the used of void in

the definition of the swap function. This means that there isn't a value to be returned.

Pointers to Strings Using a similar method, strings can also be manipulated using pointers,

```
#include <stdio.h>

void swap();
main()
{
   char *str1, *str2
   str1=(char *) malloc(9);
   str2=(char *) malloc(9);
```

#include <alloc h>

```
printf("Enter two strings: ");
 scanf("%s %s",str1,str2);
 if (strcmp(str1,str2) > 0)
 swap(&str1,&str2);
                              %s
     printf("\nNew order:
%s\n",str1,str2);
void swap(pntstr1,pntstr2);
char *(*pntstr1),*(*pntstr2);
 char *temp;
 temp = (char *) malloc(9);
 temp = *pntstr1;
 *pntstr1 = * pntstr2;
 *pntstr2 = temp;
```

Now here's the complicated bit. The declaration of char of *pntstr1 and *pntstr2 in the function swap() are interpreted as 'pointers to pointers to character strings'.

Pointers to Arrays When a numeric array passed to a function we are actually only passing a pointer to the first element in the array. However, as arrays are stored as a contiguous block in memory we can easily located the rest of the array.

```
void swap();
#define col 2
main()
 float array[COL];
 int I:
  printf("Type in two numbers
please: ");
 for (I=0; I<COL; I++)
  scanf(%f",&array[l);
 for (I=0; I<COL; I++)
  if (array[0] < array[1])
  swap(array);
```

printf("\nNew Order: ");

```
for (I=0: I<COL: i++)
 printf("%5.2f",array[l]);
void swap(array)
 float array[]:
 float temp;
 temp = array[0];
 array[0] = array[1];
 array[1] = temp;
```

Recursion..recursion..recursion.

When a function calls itself, it is known as recursion. Once it is understood, a program can create simple but powerful programs using a recursive routine. We shall return to the subject of recursion in a future article. where we investigate the Towers of Hanoi puzzle.



Subscriptions

There's never been a better time to subscribe to Sinclair & SAM Computing.

Not only is the magazine improving as each issue is published, but with extras such as our DTP Guide and discs like the one with this issue, you're getting better value for money than with any other magazine.

Not only are the articles of top quality, but we cater for more uses of your computer such as comms, video presentation, emulation, etc.

The inclusion in each article of 'Jargon' boxes will aid beginners grasp the fundamental basics of the article quickly and easily.

Reviews of products are now, where possible, backed up by an alternative review by another user, hopefully sheading a new light on a product. We realise that a review is normally only one person's opinion, and although this opinion may be a broadly correct, by providing more than more we are presenting you with an even clearer buying recommendation of that product.

We also print more utility reviews, and adverts from all the top companies including discounts of their products in our mail order range.

All this and more in an A4 professionally typeset publication which leaves the A5 dot-matrix printed magazines at the starting post.

BACK ISSUES

Anybody who has missed the previous issues of Sinclair & SAM Computing will be pleased to know that they are still available as back issues.

They cost £1.75 each inclusive of postage and should be ordered using the form below (or a photocopy of it). This price is the same for overseas readers.

ISSUE 1

Reviews: MasterDOS, Tracey, QL keyboard interface. Articles: RAM Paging, The Sound of Music by Garry Rowland, On-Line.

ISSUE 2

Reviews: DICE, GM-Base, Flexipage, The Copier, Sinclair QL emulator for the Commodore Amiga
Articles: Video Titling Part 1, Programming in 'C' Part 1, Emulator, Public Domain software, On-Line (review of Phantom Viewdata BBS), QL Corner (QL comms, PD software)

ISSUE 3

Reviews: SAM DICE, JoyMouse, SAMplifier, GM-Calc. Articles: Video Titling Part 2, Programming in "C" Part 2, PDomain. FREE 3.5" SAM disk - please specify if required.



Subscription / Back Issues Order Form

6 ISSUES UK Please start my subscription with Issue_		/ERSEAS £9.75 verseas subscriptions are sent Air Mail
PLEASE SEND ME THE FOLLOWIN		
PAYMENT ENCLOSE £		*.
PAYMENT METHOD: Cheque	☐ Postal Order	Please make payable to Gamer Designs.
NAMEADDRESS		
POST CODE	DAYTIME TELEPHONE NUM	MBER

Singlair & SAM MAIL ORDER

GREAT PRODUCTS AT GREAT PRICES SUPERSTORE

	SOF	TWA	RE	
Description Tasword +3 (Spectrum +3 disc) Last few Tasword's remaining - ph	Supplier Tasman one for availa	RRP £24.95 bility.	Our Price £18.99	Order No SPEDTASW
Music Writer - Reference Edition Music Writer - Muso's Edition * NEW * Compiler.XTN * NEW * MIDI.XTN (Music Writer is for all Spectrums	G.Rowland G.Rowland G.Rowland G.Rowland with 128K of	£15.00 £3.50 £10.00	£20.00 £12.00 £2.20 £8.00	MWRED MWMED MWCOMP MWMIDI
DICE (Spectrum +3 disc) DMS (Spectrum +3 disc) Plus 3 Diary (Spectrum +3 disc) CD2 Tape to SAM Disc Transfer U	Kobrahsoft Kobrahsoft Kobrahsoft Jtility	£14.95 £14.95 £12.95	£13.50 £13.50 £11.50	KOBRDICE KOBRDMS KOBRDIAR
(SAM Coupé disc) SM1 Multiface Suite (48/128 tape)	Kobrahsoft	£10.95 £12.95	£9.75 £11.75	KOBRCD2SD KOBRMFCAS
Flexipage (Spectrum tape) Flexipage (Spectrum +3 disc) Flexipage (SAM Coupé disc) Flexipage Demos	Flexibase Flexibase Flexibase	£13.50 £13.50 £13.50 £2.00	£12.30 £12.50 £12.50 £0.90	FPAGETAPE FPAGE+3D FPAGESAMD FPAGEDEMO
Dr.Scroll (Spec 48/128/+3 tape)	BG Services	£5.00	£4.25	BGDRSCROLL
RAINBOW (Spectrum tape) RAINBOW (Spectrum +3 disc) Clip Art Presentation Pack 1	Garner Des. Garner Des.		£5.75 £5.75	RAINTAPE RAINDISC
(2 x Spectrum tapes) Clip Art Presentation Pack 2	Garner Des.	£10.00	£8.80	CAPPISPT
(2 x Spectrum tapes)	Garner Des.	£10.00	£8.80	CAPP2SPT
Clip Art Presentation Pack 1 (2 x Spectrum +3 discs)	Garner Des.	£10.00	£8.80	CAPP1SPD
Clip Art Presentation Pack 2 (2 x Spectrum +3 discs)	Garner Des.	£10.00	£8.80	CAPP2SPD
Clip Art Presentation Pack 1 (2 x SAM Coupé discs)	Garner Des.	£10.00	£8.80	CAPPISCD

Garner Designs are official suppliers for Kobrahsoft, Garry Rowland, BG Services and Flexibase - your guarantee of quality.

HARDWARE

Description	Supplier	RRP	Our Price	Order No
VTX5000 modem (48K)	BG Services	£15.00	£14.00	VTX48K
VTX5000 modem (+2A/+3)	BG Services	£20.00	£19.00	VTX2A3
SAMplifier (SAM Coupé)	BG Services	£20.00	£19.00	SAMPLBG1
As above but with Stereo Speakers	BG Services	£25.00	£23.50	SAMPLBG2
The Fixit for the Spectrum +2A/+3	BG Services	£9.95	£9.45	FIXITBG

ACCESSORIES

10x3" Discs	Maxell/Amsoft	£9.99	£21.00	MAM3
10x3.5" Discs	Unbranded		£4.50	3.5UNB
10x5.25" Discs	KAO	£9.99	£7.35	KAO525
	Columbus	£5.99	£4.50	MOUSE9
Mouse Mat (Blue) Mouse Mat (Red)	Columbus	£5.99	£4.50	MOUSE10
Mouse Holder	Columbus	£3.99	£2.20	MOUSE11

POSTAGE & PACKING

Postage and packing is charged at £1.20 per order. However, if you live in Europe or overseas then please add an additional 95p per item

Sinclair & SAM Computing Mail (Order		
	DESCRIPTION	PRICE	ORDER NO
Name	designment with the control of	959662 x £3	
Address			
The Charles page 19. Shades and Trags 82 money 00 07.		STATE OF THE STATE	
Post Code	g +3 Lys) (Samer Day)	(2 x Spectrum Transport	
Phone Number	(Add Smith Co. (Callette to a	unibed25x.5)	
I enclosed a cheque/postal order made payable to Gamer Designs, for the amount of £			
Send this form with payment to: Sinclair & SAM Computing, 57 Lovers Walk, Dunstable,	Overseas P&P - add £0.95 per item		
Beds, LU5 4BG.	P&P	£1.20	

TOTAL ORDER

COMING NEXT ISSUE

Plus 3 Diary & Database

· We review Kobrahsoft's personal organiser utility.

SC Filer

The review (at long last)

On-Line

The return of our modem column.

Colour screen dump

· We review a utility for the SAM which prints out screens in full colour.

The DTP Guide

The 3rd in our series of booklets covering desktop publishing on the Spectrum and SAM

CLASSIFIEDS

For sale...Spectrum +3, B/W T.V., 2 joysticks, tape leads, tape recorder, 450 games, Multiface 3, lightgun, 25 discs, 100's magazines, books £300 ono. Phone 0909 563229 or write to Philip Bird, 41 Windsor Walk, South Anston, Sheffield, S31 7EL.

Wanted Z80/Spectrum Assembly Code programmer, to write software part time for hardware projects currently being designed. Aim to sell and split profits. Hardware experience helpful but not required. If interested Tel: Mike 0942 831925.

For Sale: Multiface 3 with thru port, backs-up any game to tape or disk - £25 ono. Magnum Lightgun - just point the gun at the screen and shoot, comes with 6 lightgun hames including Operation Wolf £15 ono. Blank Maxell/Amstrad 3" disks - £2.00 each. Tape Games from 10p upwards. Write cheques/PO payable to ALAN ROBERTS, 16 LIVERSEY AVENUE, LUDLOW, SHROPSHIRE, SY8 1HN.

If you want to place a FREE classified advertisement then send it to the usual address. Adverts will be printed in the next available issue. We reserve the right we refuse to publish any advert as we see fit.

KOBRAHSOFT SPECTRUM AND SAM COUPÉ UTILITIES

SAM DICE DISC UTILITY:- NEW! Features READ; BACKUP; RECOVER erased files/lost data; REPAIR directories; DISC CHECK; LOCK OUT bad sectors; SEARCH for a string; RENAME files; FORMAT all or one track. Price:- £12.95 on Disc.

CD2 TAPE TO SAM DISC TRANSFER UTILITY:- NEW! Transfer the VAST MAJORITY of your Spectrum tapes to Sam drive. Gives superb Spectrum tape compatability. VERY EASY to use. Price: £10.95 on Disc.

SP7 TAPE TO +3 DISC UTILITY:- NEW! Transfer tapes to +3 disc. Now comes with a BEGINNER'S Manual, an ADVANCED DISC CATALOGUER, and now will transfer FULL 128K programs. INCLUDES SP7 COMPANION - shows how to transfer many games. Supplied on DISC at:- £14.95

SP7 COMPANION VOL 2:- TRANSFERS 100+ GAMES. Needs SP7:- £4.95

SC7 UTILITY. NEW! Latest tape to tape backup utility will now backup virtually ANY program.

Price: £9.95 on Tape.

DMS +3 DISC MANAGEMENT SYSTEM:- NEW Version 1.1 now with printout, high capacity formats AND extended directories. Organise all your disc files. Large database; FAST file search, MENU programs. Easy to use:- £14.95 on Disc.

D.I.C.E: NEW Version 3.0 +3 disc utility. Now with high capacity format, data printout and disassembler. Lock out faulty sectors; Recover erased files and much more. Easy to use. "An excellent package", CRASH Oct '88. £14.95 on Disc.

SPECTRUM MACHINE CODE COURSE:- FULL course from beginner to advanced level. Applies to ALL Spectrums. Suitable for all. Free Disassembler AND Editor/Assembler:- £20.00. DB2 +3 DISC BACKUP UTILITY: NEW Backup +3 PROTECTED discs to DISC or TAPE; Easy to use; Handles Multi-Loads and now even more discs:- £14.95 on Disc.

PLUS 3 DIARY AND FILING SYSTEM:- NEW Version 1.1 with full printout. Superb filing system/diary for the +3 with LARGE database, fast search/retrieve, biorhythms:- £12.95 on Disc.

ALSO AVAILABLE:- SD5 TAPE TO M/D; SO5 TAPE TO OPUS; MT1 M/D TOOLKIT; SW1 TAPE TO WAFADRIVE; SAM ST2 TAPE UTILITY; SM1 M/F SUITE.

Please ring for FULL details.

WE OFFER A FULL MONEY BACK GUARANTEE - BUY WITH CONFIDENCE UPDATE SERVICE:-SEND HALF NEW PRICE+OLD DISC FOR NEW VERSION

Send cheque/P.O. to:- "KOBRAHSOFT", DEPT SSC, "Pleasant View", Hulme Lane, Hulme, Longton, Stoke-on-Trent, Staffs, ST3 5BH. (Overseas:- EUROPE add £1 P+P PER ITEM, others £2) Send SAE (9" x 5") for detailed Catalogue - mark envelope "ENQUIRY".

For more information please phone: - 078 130 5244



Access, Visa Welcome - please phone above number. (24 Hour, 7 Day Service for FAST Mail Order).

